

CLAIMS

What is claimed:

1. A latch arrangement comprising:

a latch bolt having a closed position and an open position;

a detent having an engaged position capable of retaining the latch bolt in the closed position and a release position at which the latch bolt can move from the closed position,;

a drive mechanism having a driving abutment and a clutch member, and the clutch member selectively operably couples the driving abutment with the detent;

an actuator operable to move the driving abutment of the driving mechanism;

the latch arrangement having a latched closed position wherein the latch bolt is in the closed position, the detent is in the engaged position, and the clutch member is in a first position, an unlatched closed position wherein the latch bolt is in the closed position and the detent is in the released position, and an unlatched open position wherein the latch bolt is in the open position; and

wherein powered operation of the actuator causes the clutch member to selectively couple the driving abutment with the detent and move the latch arrangement to the unlatched closed position and the clutch member follows a first path, subsequent movement of the latch arrangement to the unlatched open position causes the clutch member to follow a second path, and subsequent movement of the latch arrangement to the latched closed position causes the clutch member to follow a third path; and

wherein the first path, the second path and the third path are different.

2. The latch arrangement as defined in claim 1 wherein the latch arrangement is manually moveable to the unlatched open position if the actuator fails during opening, and the latch arrangement is subsequently moved to the latched closed position while the clutch member lies remote from the first position and proximate to one of the second path and the third path.

3. The latch arrangement as defined in claim 1 wherein the first path is substantially arcuate.

4. The latch arrangement as defined in claim 1 wherein the second path is generally chordal relative to the first path.

5. The latch arrangement as defined in claim 1 wherein the third path is generally linear.
6. The latch arrangement as defined in claim 1 wherein the driving mechanism further includes a plurality of driving abutments.
7. The latch arrangement as defined in claim 1 wherein the driving abutment is mounted on a worm wheel.
8. The latch arrangement as defined in claim 7 wherein the drive mechanism includes a stop lever and the worm wheel includes a first abutment surface, and the stop lever acts on the first abutment surface of the worm wheel to selectively prevent rotation of the worm wheel.
9. The latch arrangement as defined in claim 1 further including a chassis and wherein the clutch member includes a link portion pivotable relative to the chassis via a pivot having a pivot axis.
10. The latch arrangement as defined in claim 9 wherein the pivot axis is translatable relative to the chassis.
11. The latch arrangement as defined in claim 10 wherein the pivot axis is translatable along a total distance, and the pivot axis is biased to a mid-position of the total distance when the latch arrangement is in the latch closed position.
12. The latch arrangement as defined in claim 1 further including an ajar lever operable to detect the open position and the closed position of the latch bolt.
13. The latch arrangement as defined in claim 12 wherein the ajar lever moves the clutch member to selectively decouple the driving abutment from the detent when the latch bolt moves to the open position.
14. The latch arrangement as defined in claim 12 wherein the ajar lever returns the latch arrangement to the latched closed position upon closing the latch bolt.

15. The latch arrangement as defined in claim 8 further including an unlatching lever fixed for rotation with the detent that selectively disengages the stop lever and allow subsequent actuation of the power actuator as the latch bolt moves to the closed position.

16. The latch arrangement as defined in claim 15 wherein the unlatching lever selectively engages the stop lever to limit subsequent actuation of the power actuator as the latch bolt moves to the open position.